# Making Boeing-Sized Electric Planes Possible



**June 2022** 

## FLYING AND THE ENVIRONMENT / SS



The opportunity is equal to the problem

**Carbon Footprint** 

460 kg CO,

**700** kg CO<sub>2</sub> Per Person

**Eat Meat** for a Year A Single Round-Trip NY-Chicago Flight

### NEW PROPULSION → NEW PLANE 🥸



Propulsion technology leads aerospace innovation

#### **New Plane**



Boeing 787



#### ... From New Engine



GE GEnx Engine

### **AEROSPACE INDUSTRY**



100+ seat planes are 98% of the industry

Boeing: **\$100B** Airbus: \$80B



**Smaller planes** 

100-220 seats 2-100 seats ATR-72

**Larger planes** 

737

**Jumbo jets** 

220-600 seats 747

### **POWERTRAIN**

World record-setting performance



- → 3x more powerful
  2 MW, permanent magnet motor, SiC inverter,
  40,000 ft altitude, ducted fan.
- → \$10M in government contracts
  Early revenue wedge from Dept of Defense.
- → In **FAA** validation

  Targeting certification in 2025-6.









### **ENERGY STORAGE**



We're building prototypes in 2022-3



- Aluminum-air chemistry
  Aluminum-oxygen quick-swap design, greater than 1,000 wh / kg, 80% lighter than li-ion.
- → **Hydrogen** fuel cells

  Ultra-lightweight designs already on the market in automotive applications.
- → Used by the military for years

  These chemistries have deep experience in

  Dept of Defense and also commercial batteries
  such as hearing aids.

## THE WRIGHT SPIRIT

W.

Coming 2026



- Retrofit of BAe 146
- 100 seats / 1 hr flights
- 90% less expensive GTM

